

31 Pond Street,
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8th December, 1955.

Dear Professor Lederberg,

I wonder if you could help me in the following matter. I am anxious to get the latest views on the reproduction and genetics of phages, for a review of the cancer problem from the angle of biology, which I have undertaken to write. If you have any reprints bearing on this, I should be much obliged for them. Alternatively, could you send me some references?

So far as I can see, it looks as if some at least of the cancer 'viruses' are really detached portions of tissue cells, and further, that they may be able to undertake some kind of 'recombination' with other similar, but not yet liberated, particles in certain circumstances. I am thinking especially of recent work on grafting Lucké's frog carcinoma into the eye chambers and other sites of frogs of different subspecies.

I take it that there is as yet no way of deciding what happens to a phage during the period when it is capable of recombination. It might dissegregate into separate qualitatively different 'genes', or it might, I suppose, be in a peculiar state when it could undergo partial recombination by a sort of zipper mechanism whenever it came into contact with another particle.

There is also the mystery as to what happens when a phage becomes part of the genetic constitution of a lysogenic bacterium - does it, as it were, kick out a whole gene, or part of a gene, from the bacterial chromosome, or does it just stick on to a particular locus? I suppose here again there is no decision yet possible.

I hope to be in the United States for some time next summer and, if so, shall certainly want to see you and my other friends at the University of Wisconsin. I remember with such pleasure our brief meeting last year.

Yours sincerely,

Julian S Huxley

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